

**EPISOUTH PLUS REPORT 2/2011****THE EPISOUTH PLUS PROJECT****IN DEPTH ANALYSIS OF COORDINATION OF  
SURVEILLANCE AND RESPONSE BETWEEN POINTS  
OF ENTRY AND NATIONAL SYSTEMS IN THE  
EPISOUTH REGION**

Review of relevant scientific literature and of existing monitoring  
frameworks

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# THE EPISOUTH NETWORK

## EPISOUTH PROJECT (2006-10)

In occasion of the Year of the Mediterranean (2005), a number of countries that share the Mediterranean ecosystem and therefore have common public health problems, agreed to develop the project “EpiSouth”, whose aim was to create a framework of collaboration on epidemiological issues in order to improve communicable diseases surveillance, communication and training in the Mediterranean region and South-East Europe.

The Project “EpiSouth” started in October 2006 with the financial support of the EU DG-SANCO together with the Italian Ministry of Health and has been closed in June 2010. As per June 2010, EpiSouth is a Network of 27 countries (9 EU and 17 non-EU countries plus 1 candidate to enlargement country). It is therefore the biggest inter-country collaborative effort in the Mediterranean region.

## EPISOUTH PLUS PROJECT (2010-13)

A new phase of the EpiSouth Network activities has been approved and started on 15 October 2010 and is expected to last until 15 April 2013.

The new phase implies a shift of the Network’s activities to a wider approach. Building on the knowledge of regional gaps and needs identified during the first EpiSouth implementation in the fields of Epidemic Intelligence, Vaccine Preventable Diseases and Migrants, Cross Border Emerging Zoonoses and Training in field/applied epidemiology, the new EpiSouth Plus Project aims at contributing to the control of public health threats and other bio-security risks in the Mediterranean region and South-East Europe.

## OBJECTIVE AND ORGANIZATION

The EpiSouth Plus project is aimed at increasing the health security in the Mediterranean area and South-East Europe by enhancing and strengthening the preparedness to common health threats and bio-security risks at national and regional levels in the countries of the EpiSouth Network in the framework of the International Health Regulations (IHR) implementation. The reinforcement of relations of trust in the region is an objective and an instrument in the scope of Project’s implementation.

Ensuring a successful response to this challenge requires a solid framework of collaboration and information exchange among the 27 participating Countries. To this purpose, Focal Points from each participating country have been appointed and asked for active involvement and collaboration in the project’s activities.

The project is organized in seven Work Packages (WP), jointly co-led by EU and non-EU countries. WP leaders work in strict contact with the corresponding WP Steering Team, while a Steering Committee,

constituted by all WP leaders, and the Project General Assembly, constituted by all participants, are responsible for the general strategic decisions. Finally, an Advisory Board, constituted by representatives of the collaborating institutions and external experts, provide support for the revision of relevant documents and recommendations.

## ACTIVITIES

Apart from three transversal WPs (i.e., WP1-Coordination; WP2-Dissemination; WP3- Evaluation) the project's activities are articulated in four WPs:

- 1) Establishment of a Mediterranean Regional Laboratories Network to facilitate common threats detection in the countries involved (WP4).
- 2) Promotion of common procedures in Generic Preparedness and Risk Management Plans among the countries involved (WP5).
- 3) Enhancing Mediterranean Early Warning Systems (EWS) and cross-border Epidemic Intelligence allowing alerts and Epidemic Intelligence information sharing among EpiSouth countries and developing interoperability with other European EW platform, especially EWRS, as forecast by the current EU legislation (WP6).
- 4) Facilitating IHR implementation through the production of a strategic document, with guidelines based on specific assessments for describing how national plans/legislations can interact with IHR requirements (WP7).

# 1. INTRODUCTION

Work Package 7 (WP7 – Facilitating International Health Regulations - IHR - implementation) of the EpiSouth Plus Project is co-led by the World Health Organization (WHO) and the Italian National Institute of Health (ISS) with the guidance of a steering team (ST).

WP7 activities complement those developed in the technical work packages (WP4 – Mediterranean regional laboratory network, WP5 – Generic preparedness plan and risk management procedures and WP6 – Early warning system and cross-border epidemic intelligence) as the general aim is to reinforce surveillance and response to health threats.

During the first year of activities, WP7 has identified **coordination of surveillance and response between points of entry and national systems** as a priority among Mediterranean countries for IHR implementation. It will therefore develop guidelines for the acquisition/strengthening of this capacity and a strategic document, possibly also building on the experience gained through WPs 4-6 of the EpiSouth Project.

In order to contribute to the definition of appropriate methodological tools to guide the development of these outputs, a review of available scientific literature on IHR implementation and an analysis of available assessments on the implementation of capacities at Points of Entry have been performed and are presented in this report.

## 1.1 REQUIREMENTS FOR SURVEILLANCE AND RESPONSE AT POINTS OF ENTRY UNDER THE INTERNATIONAL HEALTH REGULATIONS

The IHR 2005 require Member States to develop, strengthen and maintain the IHR public health core capacities requirements at designated ports, airports and ground crossings – hereby called Points of Entry (PoE)- related to prevention, early warning and response for public health risks and events.

“To minimize the risk of international spread of disease through transportation, travel and trade, States Parties must **designate** their international ports or airports. Additionally, where justified for public health reasons, States Parties may designate certain ground crossings that should also develop these capacities.

Routine and emergency public health measures and required health documents are necessary to ensure that conveyances and facilities at airports, ports and ground crossing are kept free from sources of infection and are important with regard to the potential for international spread of disease, as outlined in the IHR (Articles 19-39, Annexes 1, 3, 4, 5, 6, 7, 8, 9). The core capacities required should be implemented by **competent authorities** at points of entry. States Parties should further establish national plans for surveillance and response, considering their activities at designated airports, ports and ground crossings.

Under the above mentioned provisions of the IHR, it is required that designated airports, ports and ground crossings have capacities to ensure a safe environment for travellers using the facilities, including potable water supplies, eating establishments, flight catering facilities, public washrooms and appropriate solid and liquid waste disposal services. Competent authorities are required to conduct

inspections, to provide vector control programmes, to supervise service providers, including monitoring and supervising the application of sanitary measures. If evidence is found, disinfection, decontamination or removal and safe disposal of any contaminated water or food should be carried out.

Under Article 27 of the IHR, if clinical signs or symptoms and information based on fact or evidence of public health risk is found on board conveyances on a international voyage, the competent authority shall apply control measures at the point of entry, or, if not able to carry out the required measures, the competent authority shall, nevertheless allow the departure of the aircraft, ship or ground transport, subject to informing the competent authority at the next known point of entry of the evidence found and the control measures required.

According to the IHR, capacity should be in place to adopt control measures to prevent the spread of disease and its agents at points of entry and on conveyances, such as cleaning and disinfection, decontamination, deratting, disinsecting, etc. Health measures taken pursuant to the IHR shall be carried out so as to avoid injury and as far as possible discomfort to persons, or damage to the environment in a way which impacts on public health, or damage to baggage, cargo, containers, conveyances, goods or postal parcels (Article 22). These measures shall be initiated and completed without delay, and applied in a transparent and non-discriminatory manner (Article 42) (WHO, 2005).”<sup>1</sup>

## 1.2 FINDINGS OF THE ANALYSIS OF DATA ON IHR- RELATED CAPACITY IMPLEMENTATION AT POINTS OF ENTRY IN THE EPISOUTH REGION

As part of the first phase of activities of EpiSouth WP7, data provided in 2010 by Episouth countries through the WHO IHR monitoring tool was analysed. The results were presented and discussed during the 1<sup>st</sup> WP7 ST meeting that was held in Rome in July 2011 and published in an joint EpiSouth/WHO report.

From this analysis, the main strengths that emerged were that most of the countries examined in the EpiSouth Region have a list of designated ports and airports and have informed WHO of authorized ports.

Weaknesses at PoE are related to the absence of a competent authority in all designated ports/airports, to the absence of assessments of their capacities, and more generally to the lack of efficient surge and response capacities.

## 2. SCIENTIFIC LITERATURE REVIEW

In order to approach the analysis of IHR 2005 implementation in the EpiSouth Region, a literature review was performed. The main objective of this exercise was to gain a general understanding of data available and guide the team to the elaboration of specific investigation tools.

The topic around which the review was performed was **IHR implementation** with a special attention to articles describing strengths and weaknesses of specific IHR-related capacities. In addition articles pointing to the role of international organizations and/or collaborative networks were examined as a

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<sup>1</sup> WHO/HSE/IHR/LYO/2009.9 International Health Regulations (2005) Assessment tool for core capacity requirements at designated airports, ports and ground crossings



way to gain evidence on the role of networks such as EpiSouth are playing in IHR-related capacity acquisition at national/regional level. Searches were made mainly on PubMed, the search period chosen was 2005-2011 and seven different keywords sets were applied. Both directly selected and related<sup>2</sup> articles were examined.

Selection criteria were determined by the key words used (Table 2). Articles were selected if they were in English or French, if they were pertinent to IHR and focused on IHR implementation (excluding general descriptive articles on the Regulations).

A first screening for relevance was based on the title and abstract. Potentially relevant articles were then downloaded or requested through the Italian National Institute of Health (ISS) library and the full text version analysed looking for aspects related to IHR implementation.

Each article was scanned for evidence of:

- Acquisition of a specific IHR-related capacity
- Gaps and issues in meeting a specific IHR-related capacity,
- Activities performed aimed and building a specific IHR-related capacity at national/international level
- Usefulness of international organizations/ collaborative networks in IHR implementation.

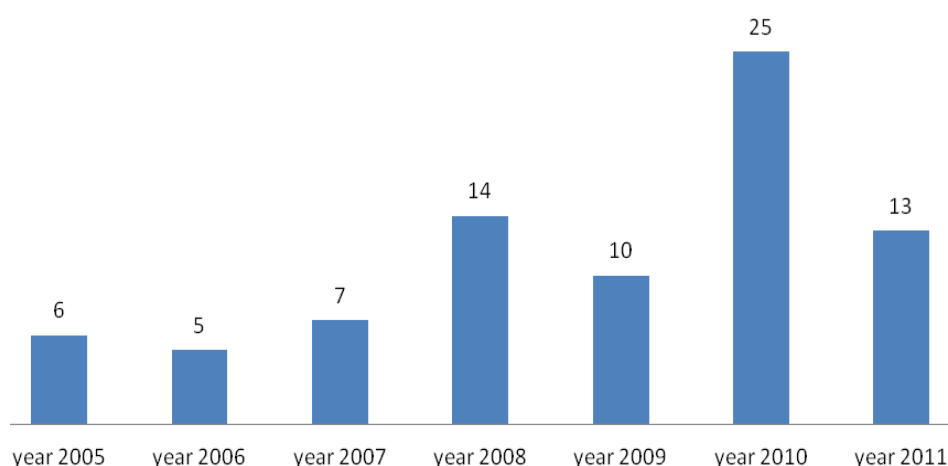
A frequency analysis was performed, and main messages and areas of activity were identified for each capacity.

**Table 1 – Search criteria**

KEY WORDS	SEARCH STRING/ DETAILS	DB
“International Health Regulations 2005”	(((International[Title] AND Health [Title] AND Regulations[Title] AND 2005[Title] AND "2005/01/01"[Date - Publication] : "3000"[Date - Publication] AND "0"[Date - Publication] : "3000"[Date - Publication])	PubMed
“Core Capacities” AND “IHR”	(((core[Title] AND capacities[Title] AND IHR[Title] AND "2005/01/01"[Date - Publication] : "3000"[Date - Publication] AND "0"[Date - Publication] : "3000"[Date - Publication])	PubMed
“IHR”	((IHR[Title] AND "2005/01/01"[Date - Publication] : "3000"[Date - Publication] AND "0"[Date - Publication] : "3000"[Date - Publication])	PubMed
“Points of Entry” and “IHR”	(((points[Title/Abstract] AND of[Title/Abstract]) AND entry[Title/Abstract] AND IHR[Title/Abstract])	PubMed
“Points of Entry”	((Points of Entry[Title/Abstract] AND "2005/01/01"[Date - Publication] : "3000"[Date - Publication] AND "0"[Date - Publication] : "3000"[Date - Publication])	PubMed
“International Health Regulations”	In Title or Keywords	Science Direct
“International Health Regulations” AND “Surveillance”	(((International Health Regulations[Title] AND surveillance[Title] AND "2005/01/01"[Date - Publication] : "3000"[Date - Publication] AND "0"[Date - Publication] : "3000"[Date - Publication])	PubMed

Out of 103 scientific articles selected through the various searches performed, 80 articles were unique. Almost half had been published between 2010 and 2011 (Figure 1).

<sup>2</sup> Related articles were defined either those suggested by the database where the search was done/ the journal database to which an identified article pointed, or those that emerged when general searches were performed on Google to access full text papers not directly available through the previous means. They have been listed in a separate search category.



**Figure 1 - Publication date of the unique articles included in the literature review (n=80)**

Thirty-seven were deemed as potentially relevant after the first level screening (Table 3). The focus of those was either on general aspects of IHR (13 articles, 35%), that were excluded on a second screening, or on IHR implementation (23 articles, 62%). Sixteen articles (43% of the total) focused on implementation of IHR at the international level (i.e. looking at capacity acquisition/building in different countries/regions) while seven (19% of the total) focused on experiences in national IHR implementation. Thirteen papers explored the issue of whether international organizations/collaborative networks were useful for IHR implementation. Twenty-three articles were selected as relevant, one article was preselected but was not available in full text.

**Table 2 – Scientific article search outcome**

Key words	Total	Duplicated articles	Eliminated on first screening	Remaining articles	Eliminated on second screening	Final relevant articles
“International Health Regulations 2005”	22	0	8	14	5	9
“Core Capacities” AND “IHR”	1	1	0	0	0	0
“IHR”	9	4	2	3	1	2
“Points of Entry” and “IHR”	0	0	0	0	0	0
“Points of Entry”	1	0	1	0	0	0
“International Health Regulations”	44 + 2 abstracts	8	31	6	3 + 1 unavailable	2
“International Health Regulations” AND “Surveillance”	13	10	0	4	1	3
Related papers	11	0	1	10	3	7
<b>TOTAL</b>	<b>103</b>	<b>23</b>	<b>43</b>	<b>37</b>	<b>13 + 1 unavailable</b>	<b>23</b>

## 2.1 IMPLEMENTATION OF IHR RELATED CAPACITIES

The most explored IHR-related capacities in scientific literature are Surveillance (13 articles), Coordination (10 articles) and Laboratory (9 articles). The least explored are Risk Communication, Chemical and Radio-nuclear detection and control (Table 4). The weakest Capacities<sup>3</sup> were Coordination, Human Resources, Laboratory, Points of Entry and Zoonosis.

As shown in Table 4, gaps were identified for all IHR-related capacities. Surveillance was the only Capacity for which most dedicated articles stated that implementation was generally on track in relation to IHR requirements. Issues however still remain. The lack of standardized surveillance documents, of thresholds, of internet, of private sector engagement and specific challenges in ensuring reporting across government levels in federal states are the main concerns raised.

All other IHR-related capacities except legal endorsement of the regulations were addressed mostly in terms of the gaps still to be met for implementation. Legal endorsement was approached both in terms of the achievement of IHR incorporation in national legislation (which has taken place in several countries) and in terms of still existing gaps to its full endorsement.

## 2.2 ISSUES RELATED TO SURVEILLANCE AND RESPONSE AT POINTS OF ENTRY

Specifically concerning PoE, problems are reported in elaborating response plans and CBRN (chemical-biological-radio-nuclear) control not only in emergency situations but also on a routine basis. In addition the lack of permanent health authorities on site are reported as a major concern.

Additional challenges are due to the lack of multi-sector collaboration and communications among different stakeholders at PoEs. All this translates in low sensitivity in event detection and the need to improve response capacity.

## 2.3 ROLE OF INTERNATIONAL ORGANIZATIONS AND/OR COLLABORATIVE NETWORKS IN IHR IMPLEMENTATION

Collaborative networks and international organizations are mostly perceived (12/13 articles) as beneficial to the national implementation of IHR thanks to capacity building activities that can be performed and the creation of forums where positive experiences and lessons learned can be shared. At the same time they have been commended for fostering the collaborative environment needed for IHR to succeed.

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<sup>3</sup> Implementation described by at least three articles none of which indicated implementation achievement.

**Table 3 – Scientific literature review results for IHR related capacities**

Capacity (C)	N. of articles	Articles stating capacity has been implemented	Articles stating that there are gaps to implementation	Main message	Actions described
C1 Legal	6	3	3	Although IHR has been incorporated in national legislation in several countries, gaps have been identified in prioritizing IHR over national needs for endemic disease; implementing capacities at local level and in notification requirements for some conditions (CD, Chem, Rad-Nuke). Specific concerns emerged for the application of IHR article 9.	None.
C2 Coordination	10	0	6	Coordination has been described as a critical area to fund and as an area that requires multirectoral/ multiministry support and direct support from the senior political level. Specific concerns were raised in federal systems.	Two papers reported examples of how defence and regional networks were used to increase coordination.
C3 Surveillance	13	6	3	Surveillance is generally described as in good track to meet IHR required standards. Major gaps identified are: lack of standardized surveillance documents, lack of thresholds, lack of internet, lack of private sector engagement. Specific challenges are met by federal states in ensuring reporting across government levels.	Described efforts in capacity building have focused on training, implementation of electronic surveillance and in the elaboration of technical guidance documents.
C4 Response	5	1	2	Although response has been described as generally good for communicable diseases, management inadequacies have been highlighted for zoonosis control in quarantine stations and hospitals. In addition one article expressed the need to improve coordination between emergency response systems and non emergency ones.	Activities to increase response capacity have been performed at international level and have included training.
C5 Preparedness	4	0	1	The main highlighted gap in preparedness is the lack of an all-hazards approach plan.	Described international efforts in capacity building have focused on training and in the elaboration of technical guidance documents.
C6 Risk Communication	1	0	1	The only article presenting this capacity stated that the establishment of a system of responsibilities was feasible in an African country. Gaps still present include the need for guidelines and the fact that the system is still disease based and misses the chem-rad-nuke components.	None.
C7 Human Resources	8	0	6	The lack of adequate HR both in terms of quantity and quality is described as a major issue in IHR implementation. Funding for the recruitment and development of staff is a major problem, in addition some countries have not performed yet a HR assessment.	Trainings and the development of technical guidance documents.
C8 Laboratory	9	0	6	Major gaps have been described in the capacity to detect disease. These include lack of advocacy and resources, lack of quality control (including accreditation), specimen transport capacity, lab infrastructure, availability of testing kits, trained staff, biosafety and biosecurity awareness and procedures. In addition laboratories are not sufficiently involved in surveillance.	Improvement of infrastructure and diagnostics.
C9 PoE	3	0	3	The papers point to the lack (in some cases) of designated PoEs, to problems in elaborating response plans and CBRN control not only in emergency situations but also on routine and to the lack of permanent health authorities on site. Additional challenges are due to the lack of multi-sector collaboration and communications among different stakeholders at PoEs. All this translates in low sensitivity in event detection and the need to improve response capacity.	None.
C10 Zoonosis	3	0	3	There is a general need to improve infrastructure to implement a "One Health" approach and bring together human and animal health professionals. Reported gaps include: the lack of regular evaluation systems and of communication and cooperation between the concerned ministries and stakeholders.	None.
C11 Food Safety	2	0	2	One article points to this capacity as generically problematic, while a second article stresses the need to strengthen international networks for its implementation.	None.
C12 Chem	1	0	1	One article points to this capacity as generically problematic. Articles exploring surveillance often state that the chem-rad-nuke components are frequently missed out (see C6).	None.
C13 Rad	1	0	1	One article points to this capacity as generically problematic. Articles exploring surveillance often state that the chem-rad-nuke components are frequently missed out (see C6).	None.

**Legend**

	Equal number of articles point to implementation on track and gaps
	More articles point to gaps than implementation on track
	More articles point to implementation on track than gaps
	Core capacity addressed by three articles or less

### 3. EXISTING MONITORING FRAMEWORKS AND ASSESSMENTS OF CAPACITIES AT POINTS OF ENTRY

Two documents were analysed in depth to inform a possible WP7 survey development: the WHO assessment tool for core capacity requirements at designated airports, ports and ground crossings and the Shipsan survey on communicable disease surveillance and control in European ports.

#### 3.1 WHO ASSESSMENT TOOL FOR CORE CAPACITY REQUIREMENTS AT DESIGNATED AIRPORTS, PORTS AND GROUND CROSSINGS

The tool for monitoring IHR- related capacity implementation at PoE proposed by WHO<sup>4</sup> consists of a detailed checklist to be compiled by the Competent Authority who is required to self assess the measure of compliance (full/partial/none) of each core capacity. Great focus is given to the assessment of the communication/collaboration structure in place among competent authorities at PoE and between competent authorities, the National IHR Focal Point and health authorities at national, intermediate and local level as this area was found to be particularly problematic.

#### 3.2 THE SHIPSAN ASSESSMENT ON COMMUNICABLE DISEASE SURVEILLANCE AND CONTROL IN EUROPEAN PORTS

Shipsan<sup>5</sup> is an EU project launched in December 2006 aimed at analysing prevention and control of Public Health threats to passengers and crew of cruise ships and ferries within the EU and providing the basis for the development of an integrated EU Ship Sanitation Program.

In 2007 the project finalized, among other deliverables, an in depth survey of communicable disease surveillance and outbreak investigation in ports. The survey was compiled by Competent Authorities of EU PoEs dealing with legislation on hygiene issues, sanitation inspections, communicable disease surveillance and occupational health. The focus in this case was also on quantification of detection and response in terms of number of outbreaks reported in the framework of IHR, investigations carried out and control measures implemented. Most authorities stated that no outbreaks were reported in 2006 suggesting that implementation of existing provisions may be a major area to strengthen.

### 4. RECCOMENDATIONS FOR THE EPISOUTH ANALYSIS

- The literature review and the analysis of existing monitoring frameworks to assess IHR-related capacity implementation at PoE, provides evidence that available data does not seem sufficient to support the

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<sup>4</sup> WHO/HSE/IHR/LYO/2009.9 International Health Regulations (2005) Assessment tool for core capacity requirements at designated airports, ports and ground crossings available at [http://whqlibdoc.who.int/hq/2009/WHO\\_HSE\\_IHR\\_LYO\\_2009.9\\_eng.pdf](http://whqlibdoc.who.int/hq/2009/WHO_HSE_IHR_LYO_2009.9_eng.pdf)

<sup>5</sup> Shipsan project website <http://www.eu-shipsan.gr/>

elaboration of guidelines and of a strategic document on coordination of surveillance and response between Points of Entry and national systems in the EpiSouth Region. This priority area chosen by the EpiSouth network for analysis and policy debate has proved to be particularly complex and problematic and generally poorly studied.

- This suggests the opportunity of elaborating *ad hoc* tools for data collection focussing on event detection and control at PoE and on coordination and collaboration lines between PoEs and national surveillance systems in Mediterranean Countries.
- Subject matter experts in EpiSouth, WHO and the Shisansan project should be involved in the elaboration of appropriate methodological tools for data collection (that could include a survey) and analysis as well as in the scope of the guidelines and strategic document to be produced.
- The outputs of WP7 should not duplicate activities already performed and be technically sound and endorsed by WHO (which is globally guiding the IHR implementation process). At the same time all 27 countries of EpiSouth should provide data to inform the guidelines and strategic document that will be produced in order to acquire ownership of the results and increase the probability of their utilization at national level.
- Should a survey be decided upon, it should build on the experience of the monitoring frameworks and analysis conducted by WHO and the EU project ShipSan. It should be more specific than the WHO monitoring tool while maintaining the focus on collaboration and communication. At the same time it would be useful to enquire on current implementation of reporting and response following the model adopted by Shisansan to gain an understanding of what is currently happening on the ground not only in terms of legislation and procedures but also in terms of their application.
- An additional aspect that should emerge, given the focus of EpiSouth, is an analysis of major gaps and lessons learned in the Region as this aspect is generally not found in literature and could be very relevant for countries collaborating in the project.

## ANNEX 1 – ARTICLES EXAMINED FOR THE LITERATURE REVIEW

TITLE	AUTHORS	REF	PERTINENT
Pandemic response and international health regulations	Agrawal V.K.	Medical Journal Armed Forces India, Volume 63, Issue 4, October 2007, Pages 366-367	N (based on abstract)
International Health Regulations (2005)	[No authors listed]	Bacteriol Virusol Parazitol Epidemiol. 2008 Oct-Dec;53(4):191-235. Romanian. No abstract available.	N (based on abstract)
Activities in view of implementing the International Health Regulations 2005	Popovici F, Pistol A, Cucuiu R.	Bacteriol Virusol Parazitol Epidemiol. 2008 Oct-Dec;53(4):189-90. Romanian. No abstract available.	N (based on abstract)
Surveillance under the International Health Regulations (2005)	Hollmeyer H, Eckmanns T, Krause G.	Bundesgesundheitsblatt Gesundheitsforschung Gesundheitsschutz. 2009 Feb;52(2):168-75. German.	N (based on abstract)
The prophylaxis of communicable diseases in points of entry under the International Health Regulations (2005)	Kicman-Gawłowska A.	Przegl Epidemiol. 2008;62(4):751-8. Polish.	N (based on abstract)
The surveillance of communicable diseases within the International Health Regulations (2005)	Kicman-Gawłowska A.	Przegl Epidemiol. 2008;62(4):739-49. Polish.	N (based on abstract)
The New International Health Regulations (2005 IHR)	Mínguez Gonzalo M.	Rev Esp Salud Publica. 2007 May-Jun;81(3):239-46. Spanish. No abstract available.	N (based on abstract)
[National IHR Focal Point].	Kicman-Gawłowska A.	Przegl Epidemiol. 2009;63(1):143-7. Polish.	N (based on abstract)
Access to essential medicines for sexual and reproductive health care: the role of the pharmaceutical industry and international regulation	Cottingham J, Berer M.	Reproductive Health Matters, Volume 19, Issue 38, November 2011, Pages 69-84	N (based on abstract)
World Health Organization	Ogbu U.C., Arah O.A.	International Encyclopedia of Public Health, 2008, Pages 634-641	N (based on abstract)
Chapter 39 - What Does the Travel Medicine Practitioner Need to Know About the International Health Regulations?	Hardiman M.	Travel Medicine, 2007, Pages 321-323	N (based on abstract)
WHA adopts new International Health Regulations	Orellana C.	The Lancet Infectious Diseases, Volume 5, Issue 7, July 2005, Page 402	N (based on abstract)
From International Sanitary Conventions to Global Health Security: The New International Health Regulations	Fidler D.P.	Chinese Journal of International Law (2005), Vol. 4, No. 2, 325–392	N (based on abstract)
The primary care osteoporosis risk of fracture screening (POROS) study: Design and baseline characteristics	Schneider D.L., Worley K., Beard M.K. et al.	Contemporary Clinical Trials, Volume 31, Issue 4, July 2010, Pages 336-344	N (based on abstract)
Improving Malaria Control in West Africa: Interruption of Transmission as a Paradigm Shift	Doumbia S. O., Ndiaye D., Koita O.A. et al.	Acta Tropica, In Press, Accepted Manuscript, Available online 28 November 2011	N (based on abstract)
3.03 - Safety Assessment of Pharmaceuticals	Hentz K.L.	Comprehensive Toxicology (Second Edition), Volume 3, 2010, Pages 17-28	N (based on abstract)
The international health regulations (2005), tuberculosis and air travel.	Plotkin B.J., Hardiman M.C.	Travel Med Infect Dis. 2010 Mar;8(2):90-5. Epub 2009 Dec 29	N (based on abstract)
[Emergent pathogens, international surveillance and international health regulations (2005)].	Formenty P., Roth C., Gonzalez-Martin F. et al.	Med Mal Infect. 2006 Jan;36(1):9-15. Epub 2005 Nov 23. Review. French	N (based on abstract)
Antiinflammatorisch wirksame Phytotherapeutika und ihr mögliches Potential bei tumorkranken Menschen	Saller R., Melzer J., Rostock M.	Forsch Komplementmed. 2011;18(4):203-12. doi: 10.1159/000333140. Epub 2011 Aug 18. No abstract available.	N (based on abstract)
Public health measures implemented during the SARS outbreak in Singapore, 2003.	James L., Shindo N., Cutter J. et al.	Public Health. 2006 Jan;120(1):20-6. Epub 2005 Nov 16.	N (based on abstract)

Surveillance of Disease: Overview	Arita I., Nakane M., Nakano T.	International Encyclopedia of Public Health, 2008, Pages 275-289	N (based on outline)
Travel and public health	Fricker M., Steffen R.	Journal of Infection and Public Health, Volume 1, Issue 2, 2008, Pages 72-77	N (based on abstract and outline)
Response to the 2009 pandemic: Effect on influenza control in wealthy and poor countries	Monto A.S., Black S., Plotkin S.A. et al.	Vaccine, Volume 29, Issue 38, 2 September 2011, Pages 6427-6431	N (based on abstract)
Guidance from WHO on the prevention and control of TB during air travel	Martinez L., Thomas K., Figueroa J.	Travel Medicine and Infectious Disease, Volume 8, Issue 2, March 2010, Pages 84-89	N (based on abstract)
Surveillance of Infectious Diseases	Morgan O.W., Pinner R.W.	Encyclopedia of Microbiology (Third Edition), 2009, Pages 759-774	N (based on abstract)
Linking yellow fever vaccinator approval and renewal with training in travel medicine in New Zealand	O'Brien B., Leggat P.A.	Travel Medicine and Infectious Disease, Volume 8, Issue 4, July 2010, Pages 210-212	N (based on abstract)
Emerging Infections	Heymann D.L.	Encyclopedia of Microbiology (Third Edition), 2009, Pages 321-328	N (based on abstract)
Editorial introduction: Is the World Bank lending effective in developing countries?	Evrensel A.Y., Kutan A.M.	Economic Systems, Volume 29, Issue 4, December 2005, Pages 363-365	N (based on abstract)
The potential impact and optimal cut-points of using glycated haemoglobin, HbA1c, to detect people with impaired glucose regulation in a UK multi-ethnic cohort	Mostafa S.A., Khunti K. et al.	Diabetes Research and Clinical Practice, Volume 90, Issue 1, October 2010, Pages 100-108	N (based on abstract)
Preservation, Storage and Transport: Integrity and Compliance	Peterman K., Simone F.	Encyclopedia of Microbiology (Third Edition), 2009, Pages 261-270	N (based on abstract)
Gray matter reduction associated with emotion regulation in female outpatients with major depressive disorder: A voxel-based morphometry study	Mak A. K.Y., Wong M. M.C., Han S. et al.	Progress in Neuro-Psychopharmacology and Biological Psychiatry, Volume 33, Issue 7, 1 October 2009, Pages 1184-1190	N (based on abstract)
Food safety regulations: what we learned from the Fukushima nuclear accident	Hamada N., Ogino H.	Journal of Environmental Radioactivity, In Press, Corrected Proof, Available online 11 October 2011	N (based on abstract)
A review of current smoke constituent measurement activities and aspects of yield variability	Purkis S.W., Meger M., Wuttke R.	Regulatory Toxicology and Pharmacology, In Press, Corrected Proof, Available online 14 October 2011	N (based on abstract)
Open Doorway to Truth: Legacy of the Minnesota Tobacco Trial	Hurt R.D., Ebbert J.O., Muggli M.E., Lockhart N.J. et al.	Mayo Clinic Proceedings, Volume 84, Issue 5, May 2009, Pages 446-456	N (based on abstract)
Technical challenges in designing post-marketing eCRFs to address clinical safety and pharmacovigilance needs	Lu Z.	Contemporary Clinical Trials, Volume 31, Issue 1, January 2010, Pages 108-118	N (based on abstract)
Limitations in the characterisation of cigarette products using different machine smoking regimes	Purkis S.W., Troude V., Duputié G. et al.	Regulatory Toxicology and Pharmacology, Volume 58, Issue 3, December 2010, Pages 501-515	N (based on abstract)
Adverse effects of ultraviolet radiation from the use of indoor tanning equipment: Time to ban the tan	Lim H.W., James W.D., Rigel D.S. et al.	Journal of the American Academy of Dermatology, Volume 64, Issue 5, May 2011, Pages 893-902	N (based on abstract)
Environmental risk assessment for food-related substances	Smith M.R., König A.	Food Control, Volume 21, Issue 12, December 2010, Pages 1588-1600	N (based on abstract)
3.15 - Immunotoxicity Studies	Germolec D.R., Luebke R.W., Luster M.I.	Comprehensive Toxicology (Second Edition), Volume 3, 2010, Pages 211-223	N (based on abstract)
Adverse effects of ultraviolet radiation from the use of indoor tanning equipment: Time to ban the tan	Lim H.W., James W.D., Rigel D.S. et al.	Journal of the American Academy of Dermatology, Volume 64, Issue 4, April 2011, Pages e51-e60	N (based on abstract)
Regulatory assessment of in vitro skin corrosion and irritation data within the European framework: Workshop recommendations	Eskes C., Detappe V., Koëter H. et al.	Regulatory Toxicology and Pharmacology, In Press, Uncorrected Proof, Available online 6 November 2011	N (based on abstract)
3.08 - Animal Care and Use in Toxicity Testing	Fillman-Holliday D., Everitt J.	Comprehensive Toxicology (Second Edition), Volume 3, 2010, Pages 97-115	N (based on abstract)



Bewertung von Innovationen in der klinischen Forschung: Stärken und Verbesserungspotenziale des Forschungsstandortes Deutschland	Vollmar H.C., Georgieff P., Bührlen B.	Zeitschrift für Evidenz, Fortbildung und Qualität im Gesundheitswesen, Volume 104, Issue 10, 2010, Pages 738-743	N (based on translated abstract)
International Health Regulations: a major paradigm shift from 1969 to 2005.	Singh S.K., Kumar S.	J Commun Dis. 2009 Jun;41(2):113-6	N (based on full text)
The revised International Health Regulations (2005): impact on yellow fever vaccination in clinical practice.	Wilder-Smith A., Hill D.R., Freedman D.O.	Am J Trop Med Hyg. 2008 Mar;78(3):359-60.	N (based on full text)
Human rights and other provisions in the revised International Health Regulations (2005).	Plotkin B.	Public Health. 2007 Nov;121(11):840-5. Epub 2007 Sep 27.	N (based on full text)
Implementing the International Health Regulations (2005) in Europe.	Rodier G., Hardiman M., Plotkin B. et al.	Euro Surveill. 2006;11(12):208-11. Review.	N (based on full text)
International health regulations (2005).	Merianos A., Peiris M.	Lancet. 2005 Oct 8;366(9493):1249-51. No abstract available.	N (based on full text)
Case definitions for the 4 diseases requiring notification to WHO in all circumstances under the IHR (2005).	No authors listed	Wkly Epidemiol Rec. 2009 Feb 13;84(7):52-6. English, French. No abstract available.	N (based on full text)
International Law and Public Health Policy	Taylor A.L.	International Encyclopedia of Public Health, 2008, Pages 667-678	N (based on full text)
International Health Regulations: the challenges ahead	The Lancet	The Lancet, Volume 369, Issue 9575, 26 May-1 June 2007, Page 1763	N (based on full text)
Revisions to the International Health Regulations	Steiger W.R.	The Lancet, Volume 365, Issue 9457, 29 January 2005, Page 381	N (based on full text)
Global public health surveillance under new international health regulations	Baker M.G., Fidler D.P.	Emerg Infect Dis. 2006 Jul;12(7):1058-65.	N (based on full text)
The New International Health Regulations: An Historic Development for International Law and Public Health	Fidler D.P., Gostin L.O.	journal of law, medicine & ethics 2006	N (based on full text)
State of the art: public health and passenger ships	Mouchtouri V.A., Nichols G., Rachiotis G. et al.	Int Marit Health 2010; 61, 2: 49–98	N (based on full text)
Emerging norms for the control of emerging epidemics	McDougall G.W., Upshur R. E. G, Wilson K.	Bulletin of the World Health Organization   August 2008, 86 (8)	N (based on full text)
Redefining syndromic surveillance	Katz R., May L., Baker J., Test E.	Journal of Epidemiology and Global Health, In Press, Corrected Proof, Available online 28 July 2011	Unavailable
The United States Department of Defence and the International Health Regulations (2005): perceptions, pitfalls and progress towards implementation.	Johns M., Blazes D.L., Fernandez J. et al.	Bull World Health Organ. 2011 Mar 1;89(3):234-5.	Yes
Disease surveillance, capacity building and implementation of the International Health Regulations (IHR[2005]).	Katz R.L., Fernandez J.A., McNabb S.J.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S1	Yes
Laboratory capacity building for the International Health Regulations (IHR[2005]) in resource-poor countries: the experience of the African Field Epidemiology Network (AFENET).	Masanza M.M., Nqobile N., Mukanga D. et al.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S8.	Yes
Regulatory and scientific frameworks for zoonosis control in Japan--contributing to International Health Regulations (2005).	Takahashi-Omoe H., Omoe K.	Rev Sci Tech. 2009 Dec;28(3):957-73. Review.	Yes
ASM LabCap's contributions to disease surveillance and the International Health Regulations (2005).	Specter S., Schuermann L., Hakiruwizera C., Sow M.S.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S7.	Yes
International Health Regulations (2005) and the U.S. Department of Defense: building core capacities on a foundation of partnership and trust.	Johns M.C., Blazes D.L.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S4.	Yes
Obligations to report outbreaks of foodborne disease under	Kirk M., Musto J., Gregory J., Fullerton	Emerg Infect Dis. 2008 Sep;14(9):1440-2. Erratum in: Emerg	Yes

the International Health Regulations (2005).	K.	Infect Dis. 2008 Dec;14(12):1975.	
Implications of the International Health Regulations (2005) for communicable disease surveillance systems: Tunisia's experience.	Lyons S., Zidouh A., Ali Bejaoui M., Ben Abdallah M. et al.	Public Health. 2007 Sep;121(9):690-5. Epub 2007 Jun 1.	Yes
Training initiatives within the AFHSC-Global Emerging Infections Surveillance and Response System: support for IHR (2005).	Otto J.L., Baliga P., Sanchez J.L., Johns M.C. et al.	BMC Public Health. 2011 Mar 4;11 Suppl 2:S5. Review.	Yes
Regional Infectious Disease Surveillance Networks and their Potential to Facilitate the Implementation of the International Health Regulations	Kimball A.M., Moore M., French H.M., et al.	Med Clin N Am 92 (2008) 1459–1471	Yes
The health surveillance stations at points of entry in Brazil under the revised International Health Regulations - IHR/2005	Gregis C., Pascalicchio F.V.	International Journal of Infectious Diseases, Volume 14, Supplement 1, March 2010, Pages e133-e134	Yes
The Role of Disease Surveillance in Achieving IHR Compliance by 2012.	Quandelacy T.M., Johns M.C., Andraghetti R. et al.	Biosecur Bioterror. 2011 Nov 10. [Epub ahead of print]	Yes
Application of international health regulations in the Singapore pandemic influenza experience	Ooi P.L.	International Journal of Infectious Diseases, Volume 14, Supplement 1, March 2010, Page e426	Yes
Capacity of public health surveillance to comply with revised international health regulations, USA.	Armstrong K.E., McNabb S.J., Ferland L.D., et al.	Emerg Infect Dis. 2010 May;16(5):804-8.	Yes
Expert Opinion on Implementation Strategies for the International Health Regulations (2005)	Katz R.L., Gornto S.E., Chretien J.P.	World Medical & Health Policy: Vol. 3: Iss. 3, Article 4.	Yes
Integrated Disease Investigations and Surveillance planning: a systems approach to strengthening national surveillance and detection of events of public health importance in support of the International Health Regulations.	Taboy C.H., Chapman W., Albetkova A., et al.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S6.	Yes
The new International Health Regulations: considerations for global public health surveillance.	Sturtevant J.L., Anema A., Brownstein J.S.	Disaster Med Public Health Prep. 2007 Nov;1(2):117-21.	Yes
Protecting global health security through the International Health Regulations: requirements and challenges	Wilson K., von Tigerstrom B., McDougall C.	CMAJ • JULY 1, 2008 • 179(1)	Yes
Comparative Analysis of National Legislation in Support of the Revised International Health Regulations: Potential Models for Implementation in the United States	Katz R., Kornblet S.	December 2010, Vol 100, No. 12   American Journal of Public Health	Yes
The New International Health Regulations and the Federalism Dilemma	Wilson K., McDougall C., Upshur R.	PLoS Med 3(1): e1.	Yes
The Revised International Health Regulations: A Framework for Global Pandemic Response	Katz R., Fischer J.	GLOBAL HEALTH GOVERNANCE, VOLUME III,NO. 2 (SPRING 2010)	Yes
Strategies for implementing the new International Health Regulations in federal countries	Kumanan Wilson,a Christopher McDougall,b David P Fidlerc & Harvey Lazard	Bulletin of the World Health Organization   March 2008, 86 (3)	Yes
Assessment of core capacities for the International Health Regulations (IHR[2005])--Uganda, 2009	Wamala JF, Okot C, Makumbi I, Natseri N, Kisakye A, Nanyunja M, Bakamutumaho B, Lutwama JJ, Sreedharan R, Xing J, Gaturuku P, Aisu T, Da Silveira F, Chungong S.	BMC Public Health. 2010 Dec 3;10 Suppl 1:S9	Yes